
Miconia alainii (Melastomataceae: Miconieae), a
New Species from Hispaniola

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ABSTRACT. *Miconia alainii*, which is known only from a diverse cloud forest near the summit of Loma Trocha de Pey or "Monteada Nueva," the easternmost peak of the Sierra de Baoruco of the Dominican Republic, is described and illustrated. It is compared to *M. adenocalyx* and *M. favosa*, two phenetically similar species.

In the course of fieldwork in connection with a monograph of the Antillean members of *Miconia* sect. *Chaenopleura* Benth. & J. D. Hooker, a new species of *Miconia* was collected. Its placement in *Miconia* is clear due to the following combination of features: the presence of druse crystals, an indumentum of irregularly stellate-branched hairs, terminal cymes of numerous, \pm small fruits, five distinct and small internal calyx lobes, and five small external calyx lobes (see Judd & Skee, 1991). Although this species is known only from fruiting and vegetative collections, it is probably referable to *Miconia* sect. *Chaenopleura* (see Cogniaux, 1891). Section *Chaenopleura* is a distinctive, and presumably monophyletic group possessing an actinomorphic androecium (i.e., stamens forming a radially symmetrical pattern around the style) of white stamens of which the obovate anthers open by longitudinal slitlike pores (Judd & Beaman, 1988; Judd & Skee, 1991). The group is also characterized by an indumentum of ferruginous, \pm irregularly stellate-branched hairs, globose fruits that turn from red to blue (or blue-white) at maturity, and angular-obovoid seeds with a \pm smooth testa (Judd & Skee, 1991, fig. 10B). Most Hispaniolan species of *Miconia* belong to this section, and many are narrow endemics. The new species is described below and compared with several phenetically similar Hispaniolan species of *Miconia*. It is presumably limited to the cloud forests of the eastern Sierra de Baoruco.

Miconia alainii Judd & Skee, sp. nov. TYPE: Dominican Republic. Prov. Barahona: Sierra

de Baoruco, Caña Brava, Monteada Nueva, 1,300 m, 24 Apr. 1976 (fr), A. H. Liogier & P. Liogier 25179 (holotype, JBSD). Figure 1.

Species haec a *Miconia adenocalyce* Urban & Ekman differt foliis majoribus 8.5–16 \times 5.2–10.5 cm (nec 2.8–14 \times 1.4–5.6 cm), venis secundariis intimis a folio margine 10–23 mm (nec 2.5–9 mm), et inflorescentiis axibus, hypanthio et calyce pilis et glandulifis longis-stipitatis destitutis.

Shrubs to 3 m tall. *Indumentum* of multicellular, darkly ferruginous, stellate- or irregularly branched to globular-stellate or elongate short-branched hairs, and minute globular hairs. *Young twigs* not ridged, \pm rectangular in cross section, becoming terete with age, the indumentum of dense, elongate short-branched to globular-stellate hairs, these \pm persistent; internodes 2–10(–15) cm long. *Leaves* with petiole 2.9–7.5 cm long, the indumentum same as that of twigs; blade ovate, 8.5–16 \times 5.2–10.5 cm, coriaceous, the apex acuminate, the base cordate, the margin plane, entire to sparsely and obscurely to clearly dentate, i.e., proximal 0–70% of margin entire, the largest teeth 0.1–1.4 mm long; venation acrodromous, with prominent midvein and 6 secondary veins, with 4 conspicuous secondary veins, the inner pair placed ca. 10–23 mm in from margin, and 2 inconspicuous secondary veins closer to margin, and numerous percurrent tertiary veins oriented subperpendicular to midvein, joined by percurrent-orthogonal quaternary veins; adaxial surface with indumentum initially densely globular-stellate, but quickly glabrescent, the midvein and major secondary veins slightly impressed, other veins \pm flat; abaxial surface with sparse to moderate, globular-stellate to elongate short-branched hairs to 0.1–0.25 mm across and with minute globular hairs on the midvein and major secondary veins, the hairs \pm persistent, the epidermis clearly visible, the midvein and major secondary veins prominently raised, minor secondary, tertiary, and quaternary veins raised, other veins slightly raised to flat. *Inflorescences* terminal, open-paniculate cymes of 4 or 5 major branch

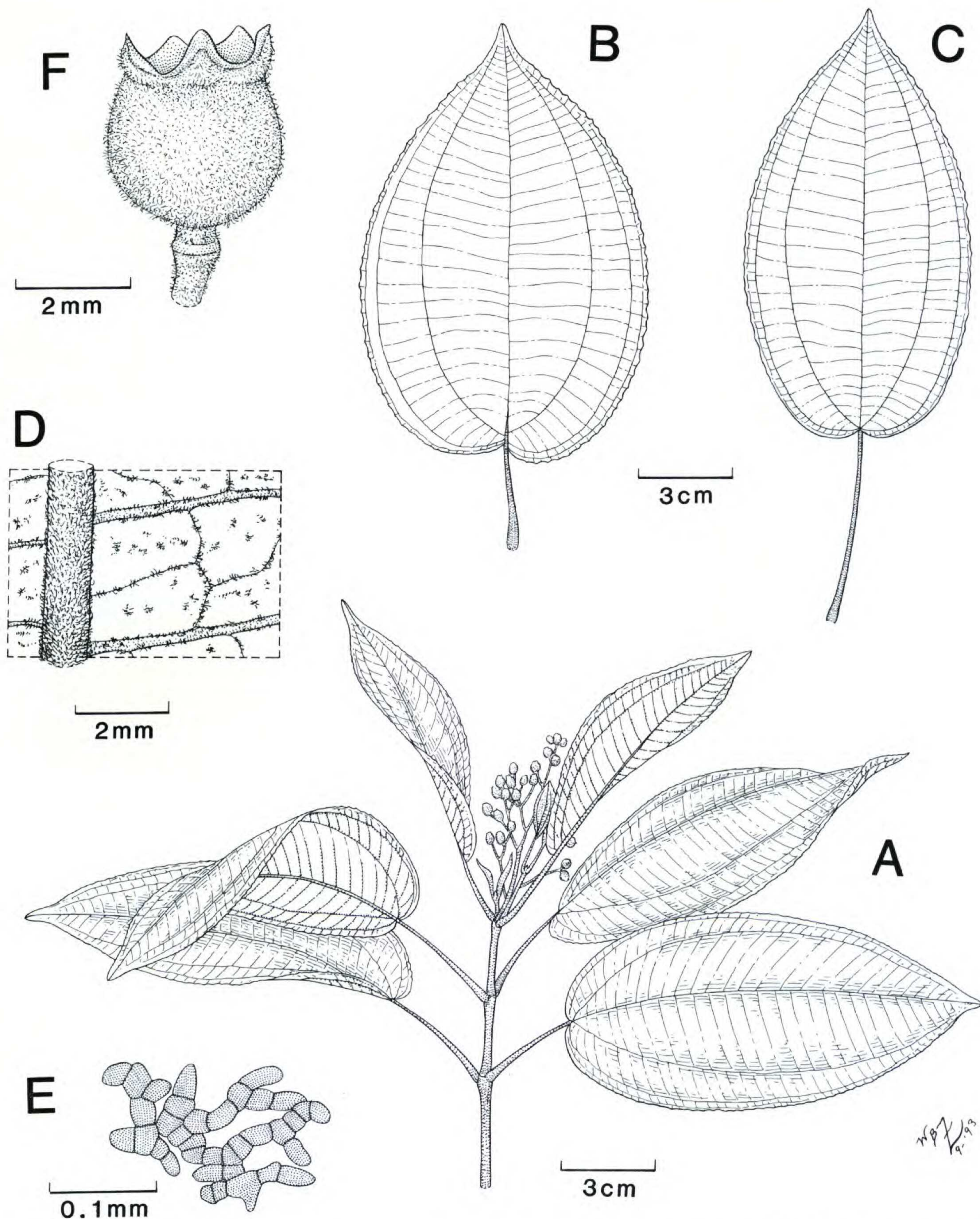


Figure 1. *Miconia alainii* Judd & Slean. —A. Habit. —B, C. Leaves. —D. Detail of abaxial leaf surface. —E. Hair from abaxial leaf surface. —F. Fruit. (A, C, F, from *Liogier 25179*; B, D, E, from *Judd 6569*.)

pairs, ca. 6.5 cm long, 4 cm across; proximal segment of lowermost branches 1–1.2 cm long, distal internodes shorter, ultimate branchlets 1–9 mm long; peduncle ca. 1.7 cm long; each branch associated with an early caducous, ovate bract, ca. 1.5–4 × 0.5–1 mm, the apex acute; flowers in dichasia, each

subtended by 2 caducous bracteoles. *Flowers* 5-merous, with pedicel 0–1 mm long. *Hypanthium* cylindrical, free portion ca. 0.6–0.8 mm long, the outer surface with sparse to moderate, globular-stellate hairs and a few minute globular hairs, the inner surface glabrous and obscurely 10-ridged, the

apices of the ridges slightly projecting. *External calyx teeth* (= lobes) $0.7\text{--}0.9 \times 1.5\text{--}1.7$ mm, \pm triangular, the apex acute; *internal calyx lobes* $0.5\text{--}0.7 \times 1.5\text{--}1.7$ mm, broadly triangular, the apex acute to rounded, the margin entire; calyx tube $0.3\text{--}0.4$ mm. *Petals* and *stamens* not seen. *Ovary* 3-loculate ($N = 3$), $\frac{2}{3}$ -inferior, globose to ovoid, 2.8×2.4 mm, glabrous and ridged, with fluted apical projection to 0.5 mm encircling base of style. *Berries* (\pm immature) globose, 3.5×3.5 mm, green with red tinge. *Seeds* angular-obovoid, $0.7\text{--}1$ mm long; testa smooth.

Distribution and ecology. *Miconia alainii* is endemic to Hispaniola and known only from the type locality, the easternmost peak of the Sierra de Baoruco. This location is usually referred to as "Monteada Nueva" in reference to a nearby coffee finca, but this forested region actually occupies the summit of Loma Trocha de Pey, at ca. $18^{\circ}07.5'N$, $71^{\circ}13.5'W$ (T. Zanoni, pers. comm.). This peak is separated from the remaining part of the mountain range by a slight depression, the Hoyo del Pelembito, and thus its high-elevation forests are fairly isolated from those farther to the west in the Sierra de Baoruco. *Miconia alainii* is an occasional understory shrub in the diverse, broad-leaved cloud forests at ca. $1,300\text{--}1,400$ m (near the summit). Associated melastomes include: *Calycogonium* sp., *Clidemia umbellata* (Miller) L. O. Williams, *Henriettea barkeri* (Urban & Ekman) Alain, *Leandra lima* (Desrousseau) Judd & Skee, *L. limoides* (Urban) Judd & Skee, *Mecranium ovatum* Cogniaux, *Meriania involucrata* (Desrousseau) Naudin, *Miconia dodocandra* (Desrousseau) Cogniaux, *M. cf. campanensis* Urban & Ekman, *M. subcompressa* Urban, *M. tetrastoma* Naudin, and *Ossaea* [*Sagraea*] *gracilis* Alain.

Etymology. It is a pleasure to name this species after Henri Alain Liogier (b. 1916), who has collected extensively throughout the Dominican Republic, Cuba, and Puerto Rico.

Miconia alainii is readily distinguished from all other members of *Miconia* sect. *Chaenopleura* (or of other sections) occurring in the Greater Antilles. It is somewhat similar to *M. adenocalyx* Urban & Ekman due to its cordate-based leaves with a sparse to moderate indumentum of minute \pm irregularly stellate-branched hairs on the veins of the abaxial surface. It is readily distinguished from that species by the much larger leaves, i.e., $8.5\text{--}16 \times 5.2\text{--}10.5$ cm versus $2.8\text{--}14 \times 1.4\text{--}5.6$ cm, with the innermost pair of secondary veins placed further in from the margin, i.e., $10\text{--}23$ mm versus $2.5\text{--}9$ mm; the lack of long-stalked gland-headed hairs on the

inflorescence axes, hypanthium, and calyx; the thinner walled and more irregularly branched hairs that are more closely appressed to the abaxial leaf surface; and the inflorescences with shorter ultimate branches, i.e., $1\text{--}9$ mm versus $2\text{--}15$ mm long. The peduncle is also shorter in *M. alainii*, but additional collections are needed to confirm the usefulness of this character, as well as that of ultimate branch length. *Miconia alainii* is also similar to *M. favosa* (Desrousseau) Naudin, one element in a species complex characterized by large, cordate-based, and \pm bullate leaves with \pm dendritic hairs. Both species are characterized by large cordate-based leaves with a \pm moderate covering of branched hairs along the veins; both also have broadly rounded cymes. However, the hairs of *M. alainii* are very small and irregularly stellate-branched to globular-stellate, whereas those of *M. favosa* (and presumed relatives such as *M. xenotricha* Urban & Ekman and *M. campanensis*) are larger and \pm dendritic. In addition, *M. favosa* has a pair of conspicuous flanges below the point of petiole attachment at each node; no such flanges occur in *M. alainii*. The tertiary veins in leaves of *M. favosa* are strongly impressed above, while those of *M. alainii* are \pm flat.

Miconia adenocalyx is restricted to the Massif du Nord/Cordillera Central and thus is isolated geographically from *M. alainii*. *Miconia favosa* has been collected in the Sierra de Neiba and Massif de la Selle (including the adjacent, western portion of the Sierra de Baoruco). This species has not been collected east of the Hoyo del Pelembito; thus *M. favosa* and *M. alainii* appear to be allopatric.

Plants frequently identified as *Miconia favosa* also have been collected at Monteada Nueva. These plants, however, differ from typical *M. favosa* in their lack of nodal flanges, slightly more narrowly ovate leaves with long-stalked multicellular hairs (each with an expanded, thickened base) on the adaxial epidermis, branched-dendritic hairs with longer stalks on the abaxial epidermis, and more elongate inflorescences. The identity of these plants is currently under investigation, but they are tentatively considered to represent a disjunct population of *M. campanensis* (a species previously known from the Sierra de Neiba and Cordillera Central). *Miconia cf. campanensis* occurs with *M. alainii*; these plants are very easily distinguished from this species, however, by the features noted above, especially their strongly bullate leaves with thick-based long-stalked multicellular hairs.

The discovery of *Miconia alainii* brings the number of species of *Miconia* reported from Hispaniola to 70 (see Moscoso, 1943; Judd & Skee, 1987; Judd et al., 1988; Judd & Beaman, 1988, Judd &

Skee, submitted). However, when probable synonyms are taken into account, a more realistic estimate is about 55 (Judd, in prep.).

Paratypes. DOMINICAN REPUBLIC. **Prov. Barahona:** Sierra de Baoruco, Loma Trocha de Pey or "Monteada Nueva," above (E of) Polo, 1,325–1,400 m, 18 May 1992 (veg.), Judd 6569 (F, FLAS, JBSD, MO, NY, US).

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